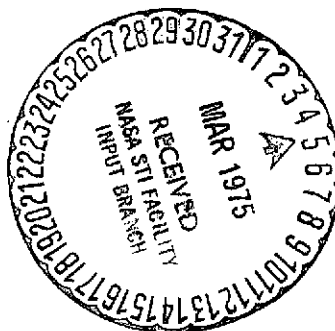


SPACE MISSION IN TASHKENT

A. Tankhel'son and Sh. Zaynutdinov

(NASA-TT-F-16161) SPACE MISSION IN TASHKENT N75-17085  
(Kanner (Leo) Associates) 7 p HC \$3.25  
CSCL 06E  
Unclas  
G3/52 10262

Translation of "Kosmicheskaya missiya v Tashkente,"  
Pravda vostoka, 3 November 1974, p. 4



1. Report No. NASA TT F-16,161	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle SPACE MISSION IN TASHKENT		5. Report Date February 1975	
		6. Performing Organization Code	
7. Author(s) A. Tankhel'son and Sh. Zaynutdinov		8. Performing Organization Report No.	
		10. Work Unit No.	
9. Performing Organization Name and Address Leo Kanner Associates Redwood City, California 94063		11. Contract or Grant No. NASW-2481	
		13. Type of Report and Period Covered Translation	
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration, Washington, D.C. 20546		14. Sponsoring Agency Code	
15. Supplementary Notes Translation of "Kosmicheskaya missiya v Tashkente," Pravda vostoka, 3 November 1974, p. 4			
16. Abstract An account of the fifth conference of the joint Soviet-American Working Group on Space Biology and Medicine, held at Tashkent, is presented. This conference concentrated attention on reviewing the spaceflight results of Soviet and American astronauts, coordination of American and Soviet research methods, and exchange of research reports. Drs. Gurovskiy and Winter, as well as cosmonaut Yegorov, were interviewed.			
17. Key Words (Selected by Author(s))		18. Distribution Statement  Unclassified-Unlimited	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 5	22. Price

## SPACE MISSION IN TASHKENT

A. Tankhel'son and Sh. Zaynutdinov

Remember how we listened to the bright and happy call signs /4\*  
from the first Earth satellite? Remember the feelings of joy  
and triumph which came over mankind when the first spacecraft,  
"Vostok," rose proudly above our planet in the first manned  
spaceflight? Remember the joyous news that men had landed on the  
Moon?

The years pass quickly. Newer and newer spacecraft depart  
from their Earth moorings and fly into space. But to the human  
consciousness, the mastering of the universe will never become a  
common, ordinary thing. Everything that has to do with space  
(and, as knowledge accumulates and experience reaches a higher  
level every year, the problems of achieving mastery over it) has  
always excited and will always excite the people of the Earth  
and will always be at the center of attention among people of  
all continents.

It is not difficult for our readers to understand the ex-  
citement that came over us when, in the green and flowery avenues  
of suburban Dorman, we saw this emblem: a man in a spacesuit,  
with an olive branch in his hand, standing against a backdrop of  
an ocean of stars. Beneath this symbolic picture was the cap-  
tion: "The Fifth Conference of the Joint Soviet-American Working  
Group on Space Biology and Medicine."

Yes, this representative forum of Soviet and American cos-  
monauts and scientists is taking place in Tashkent this time.  
Today is its next-to-last day. Previous days have been filled

---

\* Numbers in the margin indicate pagination in the foreign text.

with very interesting events -- reports, exchanges of information, fruitful discussions, screenings of unique color films taken in space, tours of the scientific and medical institutions of the capital of Uzbekistan, and excursions to Khiva, Navoi, Bukhara, and Samarkand.

Now it is time for the journalist to ask questions. The first is directed to the aviator-cosmonaut of the USSR, Hero of the Soviet Union, head of a section of the Institute of Bio-medical Problems (USSR Ministry of Health), and Candidate in the Medical Sciences, Boris Borisovich Yegorov.

"First of all, I want to tell you of the joy we share with you on account of the hard-earned victory the cotton-growers of your sunny republic have won. 5,100,000 tons of cotton -- this figure is truly astronomic!"

Boris Borisovich told of the many questions being discussed at the conference, questions about the reaction of the organism and man in space. Naturally, this is also directly related to the forthcoming 6-day joint mission of the Soyuz and Apollo spacecraft in July 1975. According to the EPAS plans, our crew will start first, then the Americans. While in Earth orbit, a docking will take place, as well as a rendezvous between the astronauts and cosmonauts. The docking fittings meet the only technical requirements worked out together by Soviet and American scientists. But let us return to the problem our medical experts and biologists deal with.

One of the most important EPAS experiments will be the transfer from one spacecraft to another. Specialists from both countries have gone to great lengths to perform this experiment. As is known, Soviet cosmonauts in space breathe air which is almost the same as on Earth -- a mixture of oxygen (17-33%)

and nitrogen (66-83%) at a pressure of 760-800 mm Hg. The Americans use pure oxygen at a pressure of 270 mm. With such a difference in pressures and inner-atmosphere composition, the rendezvous in orbit would be made more complicated, and the period of adaptation during the transfer would be made longer in order to prevent aeroembolisms. This in turn would demand the creation of additional and complex structures. The scientists and specialists found the best solution. They changed the inner-atmosphere safety system: they increased the oxygen content to 40% and reduced the pressure to 520 mm. Let me say a few words also about the docking module. It has room for two cosmonauts. It has its own life-sustaining and thermal regulation systems. As the cosmonauts enter the module, the necessary pressure and inner-atmosphere composition are also created. While they are inside the module, connection is maintained with both spacecraft. Apollo will carry the docking complex into orbit.

There were many questions discussed at the Tashkent conference. We asked the co-chairman of the Joint Soviet-American Working Group, the Chief Administrator of Space Biology and Medicine (USSR Ministry of Health), Doctor of Medical Sciences, Professor Nikolai Nikolayevich Gurovskiy, to tell us about some of them.

"As is known, the first four meetings were in Moscow, Washington, and Houston. It is naturally of interest, then, why Tashkent has now been chosen. The reason is this: the climatic and geographic conditions of Uzbekistan allow local scientists to conduct different experiments, the results of which are directly related to space biology and medicine."

"As is traditional, we exchanged research reports. The Americans gave us voluminous material (920 pp.) on the investigations of the astronauts who took part in the three Apollo expeditions; on their rendezvous with Skylab and on the biomedical

research in each. They showed two color films, one on cell division in space, which was taken through a microscope, and one on the medical experiments during the Apollo 14 flight. These films, incidentally, have already been shown at the Academy of Sciences of the Uzbek SSR. We, in turn, gave our American colleagues our report, which was devoted to studies of similar problems made during the Soyuz 13, 14, and 15 flights, as well as on the Salyut station. A lively and, I would say, fruitful discussion developed on these and other materials. It was basically centered on such interesting problems as man's reaction to his first experience of weightlessness and its long-term effect on tissue cells, as well as on standardization of research methods by the cosmonauts before, during and after the flight. Several biological experiments conducted in space were also discussed. Specifically, our report introduced very interesting data on the behavior of animals during the Kosmos 605 flight. The research program of the Kosmos 690 satellite was also explained; its fundamental task is to study the influence of cosmic rays on living organisms."

We also met the head of the American delegation, director of the Department of Space Biology and Medicine of NASA in Houston, Dr. David Winter. In our talk, the well-known biologist and physiologist, who conducted the biological experiments on Apollo 17, emphasized an important feature of the joint meetings. On the basis of recommendations made at these meetings, changes are accordingly made in the national programs of biomedical research of the universe. There is now experience in joint work, and it is enriched with every passing year. The usefulness of such contacts is obvious -- the mutual understanding we achieve promotes further cooperation between our countries in general.

"As we stood in the Ulugbak observatory," Dr. Winter said, "it seemed to us, modern scientists who deal with space, that our off

our efforts are very modest compared to that of the great astronomer of the East in those distant times."

It will be of interest to our readers to find out that the schedule of Television Central's "Man, the Earth, and the Universe" includes a place for the meetings, discussions and interviews of the Tashkent conference. A participant in this conference, USSR cosmonaut, Hero of the Soviet Union, Candidate in the Technical Sciences, Vitaliy Ivanovich Sevast'yanov has prepared this program, with the help of Tashkent cameramen. We will be able to see it in the near future.